

STN Search History

L1 QUE (INSECTICID## OR PESTICID##) AND (HASV OR HELICOVERPA (A) ARMIGERA (A)
STUNT (A) VIRUS)

L2 QUE TOXI### AND (HASV OR HELICOVERPA (A) ARMIGERA (A) STUNT (A) VIRUS)

L9 40 L6 AND (CAPSID OR P71) (P) (VECTOR OR CARR##### OR TOXI### OR
INSECTICID##### OR PESTICID#####)

L10 37 L6 AND (CAPSID OR P71) (S) (VECTOR OR CARR##### OR TOXI### OR
INSECTICID##### OR PESTICID#####)

L11 815 (CAPSID OR P71) AND (INSECTICID##### OR PESTICID##### OR TOX###
#)

(FILE 'HOME' ENTERED AT 14:07:25 ON 14 APR 2003)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 14:07:49 ON
14 APR 2003

SEA (INSECTICID## OR PESTICID##) AND (HASV OR HELICOVERPA (A) A

1 FILE BIOTECHABS
1 FILE BIOTECHDS
4 FILE CAPLUS
1 FILE CROPU
2 FILE IFIPAT
2 FILE TOXCENTER
3 FILE USPATFULL

L1 QUE (INSECTICID## OR PESTICID##) AND (HASV OR HELICOVERPA (A) A

SEA TOXI### AND (HASV OR HELICOVERPA (A) ARMIGERA (A) STUNT (A)

1 FILE BIOSIS
3 FILE CAPLUS
1 FILE DGENE
3 FILE IFIPAT
1 FILE MEDLINE
3 FILE TOXCENTER
46 FILE USPATFULL
1 FILE WPIDS
1 FILE WPINDEX

L2 QUE TOXI### AND (HASV OR HELICOVERPA (A) ARMIGERA (A) STUNT (A)

SEA INSECT##### (S) (RNA (5N) VIRUS)

1 FILE ADISINSIGHT
62 FILE AGRICOLA
4 FILE AQUASCI
7 FILE BIOBUSINESS
1 FILE BIOCOMMERCE
190 FILE BIOSIS
67 FILE BIOTECHABS
67 FILE BIOTECHDS
116 FILE BIOTECHNO
115 FILE CABA
13 FILE CANCERLIT

107 FILE CAPLUS
7 FILE CEABA-VTB
3 FILE CONFSCI
1 FILE CROPB
5 FILE CROPU
1 FILE DDFU
170 FILE DGENE
2 FILE DRUGU
4 FILE EMBAL
135 FILE EMBASE
79 FILE ESBIOBASE
33* FILE FEDRIP
1 FILE FROSTI
3 FILE FSTA
1 FILE GENBANK
1 FILE HEALSAFE
9 FILE IFIPAT
7 FILE JICST-EPLUS
142 FILE LIFESCI
1 FILE MEDICONF
67 FILE MEDLINE
2 FILE NTIS
25 FILE PASCAL
1 FILE PHIN
4 FILE PROMT
135 FILE SCISEARCH
21 FILE TOXCENTER
262 FILE USPATFULL
3 FILE VETU
27 FILE WPIDS
27 FILE WPINDEX
L3 QUE INSECT##### (S) (RNA (5N) VIRUS)

FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHNO, LIFESCI, EMBASE' ENTERED AT
14:14:40 ON 14 APR 2003

L4 758 S (L1 OR L2 OR L3)
L5 31995 S (HASV OR VIRUS) (S) (CAPSID OR P71)
L6 154 S L5 AND L4
L7 51 DUP REM L6 (103 DUPLICATES REMOVED)
L8 4 S L7 AND (L1 OR L2)
L9 40 S L6 AND (CAPSID OR P71) (P) (VECTOR OR CARR##### OR TOXI### OR
L10 37 S L6 AND (CAPSID OR P71) (S) (VECTOR OR CARR##### OR TOXI### OR
L11 815 S (CAPSID OR P71) AND (INSECTCID##### OR PESTCID##### OR TOX
L12 85 S L11 AND INSECT#####
L13 60 DUP REM L12 (25 DUPLICATES REMOVED)
L14 55 S L13 NOT L9
L15 2 S L14 AND (HASV OR (RNA OR HELICOVERPA) (S) VIRUS)
L16 37 S L14 AND (INSECTCID### OR PESTCID###)
L17 24 S L16 NOT PY>1995

L8 ANSWER 1 OF 4 MEDLINE
AN 2001496037 MEDLINE
DN 21429742 PubMed ID: 11543656
TI Replication-independent assembly of an insect virus (Tetraviridae) in plant cells.
AU Gordon K H; Williams M R; Baker J S; Gibson J M; Bawden A L; Millgate A G; Larkin P J; Hanzlik T N
CS CSIRO Entomology, Canberra, Australia.. karlg@ento.csiro.au
SO VIROLOGY, (2001 Sep 15) 288 (1) 36-50.
Journal code: 0110674. ISSN: 0042-6822.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200110
ED Entered STN: 20010910
Last Updated on STN: 20011015
Entered Medline: 20011011
AB Infectious virions of the **insect RNA virus**
Helicoverpa armigera stunt virus (
HaSV; Omegatetravirus, Tetraviridae) were assembled in cultured plant protoplasts of *Nicotiana plumbaginifolia* in the absence of detectable replication. Assembly of the **virus**, which has not been grown in cell culture, required cotransfection of a DNA plasmid expressing the **HaSV capsid** gene in combination with either genomic RNA or with DNA plasmids carrying the complete cDNAs to the two **HaSV** genomic RNAs. Each cDNA was placed under the control of the cauliflower mosaic virus 35S promoter and followed by a cis-acting ribozyme so that the resultant transcripts corresponded precisely to the two genomic RNAs. Protoplast assembly of infectious particles was confirmed by EM and bioassay of host insect larvae, which became diseased and produced virus particles confirmed as **HaSV**. Variant transcripts carrying nonviral sequences at either or both termini of the RNAs showed no infectivity, except for RNA2 carrying only a 3' terminal extension. No replication of **HaSV** in protoplasts was detected in pulse-labeling and blotting experiments. Insects showed less severe disease symptoms when fed protoplasts transfected with only the RNA1 and coat protein plasmids. The symptomatic larvae contained only RNA1 and failed to yield infectious progeny virus, suggesting that RNA1 is capable of self-replication. This novel plasmid-based system confirms that the reported sequence of **HaSV** represents an infective genome and establishes a procedure for the reverse genetics of a tetravirus.
Copyright 2001 Academic Press.

L8 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 2001:58561 CAPLUS
DN 134:126824
TI *Heliothis armigera* stunt virus and its uses in protecting plants by genetic engineering
IN Christian, Peter Daniel; Gordon, Karl Hienrich Julius; Hanzlik, Terry Nelson
PA Commonwealth Scientific and Industrial Research Organization and Pacific Seeds Pty., Ltd., Australia
SO U.S., 130 pp., Cont.-in-part of U.S. Ser. No. 440,552, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2
PATENT NO. KIND DATE APPLICATION NO. DATE
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PI US 6177075 B1 20010123 US 1995-485355 19950607
US 2003041349 A1 20030227 US 2001-991262 20011120

PRAI AU 1992-4081 A 19920814
US 1993-89372 B2 19930708
US 1995-440552 B2 19950512
US 1995-440522 B1 19950512
US 1999-234238 B1 19990120

AB The present invention relates to an isolated small **RNA virus** capable of infecting **insect** species including **Heliothis** species, and to the nucleotide sequences and proteins encoded thereby. The invention contemplates uses of the virus in controlling insect attack in plants. **Helicoverpa armigera stunt virus (HaSV)** was characterized and used as an isolated small **RNA virus** capable of controlling **insect** attack (including **Heliothis** species) in plants via various genetically engineered prepns., variants, or derivs. **HaSV** contained 2 RNA species, whose nucleotide sequences consisted of 5312 and 2478 nucleotides; RNA 2 also existed as a variant with an addnl. C residue at position 570. RNA 1 coded for the 1750-amino-acid RNA replicase (mol. wt. 187 kDa) as well as 3 smaller proteins (P11a, P11b, P14) coded on its 3'-terminal region. RNA 2 coded for P17 and the capsid protein precursor (P71) which is proteolytically cleaved to form 7200-mol.-wt. and 64,000-mol.-wt. mature capsid proteins. Viral infection activates or facilitates pathogenesis of an unrelated virus and these 2 agents act synergistically in causing larval gut cell disruption; the virus, its expressed RNAs, and its proteins were bioassayed on larva. PCR primers designed for specific regions of the **HaSV** genome were used to construct full-length RNA 1 and 2 clones for cloning and expression as well as clones expressing P64 and P7 capsid proteins, P70 (the RNA 2 variant capsid precursor), P71, and P17. In addnl. to cloning in bacterial (*Escherichia coli*) systems, expression of **HaSV** products was achieved with baculovirus vectors in insect cells (*Spodoptera frugiperda Sf9*) as hosts. Northern blotting also confirmed that RNA electroporation into various plant protoplasts leads to RNA replication and expression of capsid proteins. Various ribozyme oligonucleotides were synthesized in order to get efficient replication, translation, or encapsidation of the RNA by excising structures downstream of the tRNA-like structures. Engineered forms of the virus are described in which a foreign, reporter, or insect **toxin** gene is inserted in place of the 5'-terminal portion of the RNA replicase gene such that encapsidation signals and the initiation codon are used to commence gene translation. Addnl., the capsid protein can be fused to an **insecticidal** protein **toxin** (ricin A or diphtheria **toxin**) to form a capsovector which protects the **toxin** from inactivation by insect gut.

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 1998:1560 CAPLUS
DN 128:86401
TI Altering the cell tropism of small RNA **viruses** and **virus**-like particles by introduction of immunoglobulin-like domains into the p71 coat protein
IN Gordon, Karl Heinrich; Hanzlik, Terry Nelson
PA Commonwealth Scientific and Industrial Research Organisation, Australia;
Gordon, Karl Heinrich; Hanzlik, Terry Nelson
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9746666	A1	19971211	WO 1997-AU349	19970602
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	AU 9729446	A1	19980105	AU 1997-29446	19970602
	AU 723006	B2	20000817		
	EP 1015560	A1	20000705	EP 1997-923669	19970602
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
	JP 2000511426	T2	20000905	JP 1998-500014	19970602
	US 6251654	B1	20010626	US 1999-194613	19990702
PRAI	AU 1996-234	A	19960531		
	WO 1997-AU349	W	19970602		

AB The p71 coat proteins of small RNA viruses

of insects (Tetraviridae) have a core segment with the structure of a member of the Ig superfamily that is responsible for binding to the insect midgut. The cell tropism of these viruses can therefore be altered by introducing altered Ig-like domains or other substituted tertiary structures into this core domain. Proteins of up to 30 kilodaltons can be substituted for this domain. Virus, or virus-like particles derived from, it with modified cell tropism can be used as delivery vehicles in insecticidal and medical applications. In addn., the coat protein can be modified to minimize antigenicity for therapeutic use. The Ig-like structure could be exchanged for a minimal loop (the peptide SGSGS) without affecting particle formation and RNA packaging.

L8 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS

AN 1994:550549 CAPLUS

DN 121:150549

TI Insect viruses and their uses in protecting plants

IN Christian, Peter Daniel; Gordon, Karl Heinrich Julius; Hanzlik, Terry Nelson

PA Commonwealth Scientific and Industrial Research Organization, Australia; Pacific Seeds Pty. Ltd.

SO PCT Int. Appl., 182 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9404660	A1	19940303	WO 1993-AU411	19930813
	W:	AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW			
	AU 678982	B2	19970619	AU 1993-46912	19930813
	AU 9346912	A1	19940315		
	EP 786003	A1	19970730	EP 1993-917448	19930813
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE			
	BR 9306907	A	19981208	BR 1993-6907	19930813
	US 2003041349	A1	20030227	US 2001-991262	20011120
PRAI	AU 1992-4081	A	19920814		
	US 1993-89372	A	19930708		

WO 1993-AU411 W 19930813
US 1995-440522 B1 19950512
US 1999-234238 B1 19990120

AB **Helicoverpa armigera stunt virus** (

HaSV) was characterized and used as an isolated small **RNA** **virus** capable of controlling **insect** attack (including **Heliothis** species) in plants via various genetically engineered preps., variants, or derivs. **HaSV** contained 2 RNA species, whose nucleotide sequences consisted of 5312 and 2478 nucleotides; RNA 2 also existed as a variant with an addnl. C residue at position 570. RNA 1 coded for the 1750-amino-acid RNA replicase (mol. wt. 187 kDa) as well as 3 smaller proteins (P11a, P11b, P14) coded on its 3'-terminal region. RNA 2 coded for P17 and the capsid protein precursor (P71) which is proteolytically cleaved to form 7200-mol.-wt. and 64,000-mol.-wt. mature capsid proteins. Viral infection activates or facilitates pathogenesis of an unrelated virus and these 2 agents act synergistically in causing larval gut cell disruption; the virus, its expressed RNAs, and its proteins were bioassayed on larva. PCR primers designed for specific regions of the **HaSV** genome were used to construct full-length RNA 1 and 2 clones for cloning and expression as well as clones expressing P64 and P7 **capsid** proteins, P70 (the RNA 2 variant **capsid** precursor), P71, and P17. In addn. to cloning in bacterial (*Escherichia coli*) systems, expression of **HaSV** products was achieved with baculovirus vectors in insect cells (*Spodoptera frugiperda Sf9*) as hosts. Northern blotting also confirmed that RNA electroporation into various plant protoplasts leads to RNA replication and expression of capsid proteins. Various ribozyme oligonucleotides were synthesized in order to get efficient replication, translation, or encapsidation of the RNA by excising structures downstream of the tRNA-like structures. Engineered forms of the virus are described in which a foreign, reporter, or insect **toxin** gene is inserted in place of the 5'-terminal portion of the RNA replicase gene such that encapsidation signals and the initiation codon are used to commence gene translation.

- L9 ANSWER 1 OF 40 MEDLINE
TI Replication-independent assembly of an insect virus (Tetraviridae) in plant cells.
AU Gordon K H; Williams M R; Baker J S; Gibson J M; Bawden A L; Millgate A G; Larkin P J; Hanzlik T N
SO VIROLOGY, (2001 Sep 15) 288 (1) 36-50.
Journal code: 0110674. ISSN: 0042-6822.
- L9 ANSWER 2 OF 40 MEDLINE
TI Expression of tobacco ringspot **virus capsid** protein and satellite **RNA** in **insect** cells and three-dimensional structure of tobacco ringspot **virus-like** particles.
AU Singh S; Rothnagel R; Prasad B V; Buckley B
SO VIROLOGY, (1995 Nov 10) 213 (2) 472-81.
Journal code: 0110674. ISSN: 0042-6822.
- L9 ANSWER 3 OF 40 CAPLUS COPYRIGHT 2003 ACS
TI Replication-Independent Assembly of an Insect Virus (Tetraviridae) in Plant Cells
AU Gordon, Karl H. J.; Williams, Michelle R.; Baker, Jamie S.; Gibson, Jenny M.; Bawden, Alison L.; Millgate, Anthony G.; Larkin, Philip J.; Hanzlik, Terry N.
SO Virology (2001), 288(1), 36-50
CODEN: VIRLAX; ISSN: 0042-6822
- L9 ANSWER 4 OF 40 CAPLUS COPYRIGHT 2003 ACS
TI Heliothis armigera stunt virus and its uses in protecting plants by genetic engineering
IN Christian, Peter Daniel; Gordon, Karl Hienrich Julius; Hanzlik, Terry Nelson
SO U.S., 130 pp., Cont.-in-part of U.S. Ser. No. 440,552, abandoned.
CODEN: USXXAM
- L9 ANSWER 5 OF 40 CAPLUS COPYRIGHT 2003 ACS
TI Recombinant Nudaurelia .beta. or .beta.-like virus (N.beta.V) and vectors and their use in the preparation of insecticidal transgenic plants
IN Gordon, Karl H.; Hanzlik, Terry N.; Hendry, Donald A.
SO Pat. Specif. (Aust.), 30 pp.
CODEN: ALXXAP
- L9 ANSWER 6 OF 40 CAPLUS COPYRIGHT 2003 ACS
TI Specific encapsidation of nodavirus RNAs is mediated through the C terminus of capsid precursor protein alpha
AU Schneemann, Anette; Marshall, Dawn
SO Journal of Virology (1998), 72(11), 8738-8746
CODEN: JOVIAM; ISSN: 0022-538X
- L9 ANSWER 7 OF 40 CAPLUS COPYRIGHT 2003 ACS
TI Altering the cell tropism of small RNA **viruses** and **virus**-like particles by introduction of immunoglobulin-like domains into the p71 coat protein
IN Gordon, Karl Heinrich; Hanzlik, Terry Nelson
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
- L9 ANSWER 8 OF 40 CAPLUS COPYRIGHT 2003 ACS
TI Expression of tobacco ringspot **virus capsid** protein and satellite **RNA** in **insect** cells and three-dimensional structure of tobacco ringspot **virus-like** particles

- AU Singh, Sarabjot; Rothnagel, Rosalba; Prasad, B. V. Venkataram; Buckley, Becky
SO Virology (1995), 213(2), 472-81
CODEN: VIRLAX; ISSN: 0042-6822
- L9 ANSWER 9 OF 40 CAPLUS COPYRIGHT 2003 ACS
TI Insect viruses and their uses in protecting plants
IN Christian, Peter Daniel; Gordon, Karl Heinrich Julius; Hanzlik, Terry Nelson
SO PCT Int. Appl., 182 pp.
CODEN: PIXXD2
- L9 ANSWER 10 OF 40 CAPLUS COPYRIGHT 2003 ACS
TI Expression of simian type D retroviral (Mason-Pfizer monkey **virus**) **capsids** in insect cells using recombinant baculovirus
AU Sommerfelt, Maja A.; Roberts, Charles R.; Hunter, Eric
SO Virology (1993), 192(1), 298-306
CODEN: VIRLAX; ISSN: 0042-6822
- L9 ANSWER 11 OF 40 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Analysis of RNA packaging in wild-type and mosaic protein **capsids** of flock house **virus** using recombinant baculovirus **vectors**.
AU Krishna, Neel K.; Marshall, Dawn; Schneemann, Anette (1)
SO Virology, (January 5 2003) Vol. 305, No. 1, pp. 10-24. print.
ISSN: 0042-6822.
- L9 ANSWER 12 OF 40 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI The palm subdomain-based active site is internally permuted in viral RNA-dependent RNA polymerases of an ancient lineage.
AU Gorbalyena, Alexander E. (1); Pringle, Fiona M.; Zeddam, Jean-Louis; Luke, Brian T.; Cameron, Craig E.; Kalmakoff, James; Hanzlik, Terry N.; Gordon, Karl H. J.; Ward, Vernon K.
SO Journal of Molecular Biology, (15 November 2002) Vol. 324, No. 1, pp. 47-62. print.
ISSN: 0022-2836.
- L9 ANSWER 13 OF 40 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Nucleotide sequence analysis shows that Kashmir Bee Virus is a member of a novel group of insect-infecting viruses.
AU Topley, E. (1); Leat, N. (1); Allsopp, M.; Davison, S. (1)
SO Abstracts of the General Meeting of the American Society for Microbiology, (2001) Vol. 101, pp. 694. <http://www.asmusa.org/mtgsrc/generalmeeting.htm>. print.
Meeting Info.: 101st General Meeting of the American Society for Microbiology Orlando, FL, USA May 20-24, 2001
ISSN: 1060-2011.
- L9 ANSWER 14 OF 40 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Replication-independent assembly of an insect virus (Tetraviridae) in plant cells.
AU Gordon, Karl H. J. (1); Williams, Michelle R.; Baker, Jamie S.; Gibson, Jenny M.; Bawden, Alison L.; Millgate, Anthony G.; Larkin, Philip J.; Hanzlik, Terry N. (1)
SO Virology, (September 15, 2001) Vol. 288, No. 1, pp. 36-50. print.
ISSN: 0042-6822.
- L9 ANSWER 15 OF 40 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Large conformational changes in the maturation of a simple RNA virus, Nudaurelia capensis omega virus (NomegaV).
AU Canady, Mary A.; Tihova, Mariana; Hanzlik, Terry N.; Johnson, John E. (1);

- Yeager, Mark (1)
SO Journal of Molecular Biology, (9 June, 2000) Vol. 299, No. 3, pp. 573-584.
print.
ISSN: 0022-2836.
- ANSWER 16 OF 40 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Specific encapsidation of nodavirus RNAs is mediated through the C terminus of capsid precursor protein alpha.
AU Schneeman, Anette (1); Marshall, Dawn
SO Journal of Virology, (Nov., 1998) Vol. 72, No. 11, pp. 8738-8746.
ISSN: 0022-538X.
- ANSWER 17 OF 40 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Expression of tobacco ringspot **virus capsid** protein and satellite **RNA** in **insect** cells and three-dimensional structure of tobacco ringspot **virus-like** particles.
AU Singh, Sarabjot; Rothnagel, Rosalba; Prasad, B. V. Venkataram; Buckley, Becky (1)
SO Virology, (1995) Vol. 213, No. 2, pp. 472-481.
ISSN: 0042-6822.
- ANSWER 18 OF 40 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI BIOLOGICAL CONTROL OF THE OIL PALM PEST LATOIA-VIRIDISSIMA LEPIDOPTERA LIMACODIDAE IN IVORY COAST BY A NEW PICORNAVIRUS.
AU FEDIERE G; PHILIPPE R; VEYRUNES J C; MONSARRAT P
SO ENTOMOPHAGA, (1990) 35 (3), 347-354.
CODEN: ETPGAY. ISSN: 0013-8959.
- ANSWER 19 OF 40 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI EXPRESSION OF SINDBIS VIRUS 26S COMPLEMENTARY DNA IN SPODOPTERA-FRUGIPERDA SF9 CELLS USING A BACULOVIRUS EXPRESSION VECTOR.
AU OKER-BLOM C; SUMMERS M D
SO J VIROL, (1989) 63 (3), 1256-1264.
CODEN: JOVIAM. ISSN: 0022-538X.
- ANSWER 20 OF 40 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.
TI Analysis of RNA packaging in wild-type and mosaic protein **capsids** of flock house **virus** using recombinant baculovirus **vectors**
AU Krishna N.K.; Marshall D.; Schneemann A.
SO Virology, (2003), 305/1 (10-24), 32 reference(s)
CODEN: VIRLAX ISSN: 0042-6822
- ANSWER 21 OF 40 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.
TI The palm subdomain-based active site is internally permuted in viral RNA-dependent RNA polymerases of an ancient lineage
AU Gorbalenya A.E.; Pringle F.M.; Zeddam J.-L.; Luke B.T.; Cameron C.E.; Kalmakoff J.; Hanzlik T.N.; Gordon K.H.J.; Ward V.K.
SO Journal of Molecular Biology, (2002), 324/1 (47-62), 78 reference(s)
CODEN: JMOBAK ISSN: 0022-2836
- ANSWER 22 OF 40 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.
TI Replication-independent assembly of an insect virus (Tetraviridae) in plant cells
AU Gordon K.H.J.; Williams M.R.; Baker J.S.; Gibson J.M.; Bawden A.L.; Millgate A.G.; Larkin P.J.; Hanzlik T.N.
SO Virology, (15 SEP 2001), 288/1 (36-50), 58 reference(s)
CODEN: VIRLAX ISSN: 0042-6822
- ANSWER 23 OF 40 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.

- TI Co-expression of the **capsid** proteins of Cowpea mosaic
virus in insect cells leads to the formation of virus
-like particles
- AU Shanks M.; Lomonossoff G.P.
- SO Journal of General Virology, (2000), 81/12 (3093-3097), 15 reference(s)
CODEN: JGVIAY ISSN: 0022-1317
- L9 ANSWER 24 OF 40 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.
- TI Large conformational changes in the maturation of a simple RNA virus,
Nudaurelia capensis .omega. virus (N.omega.V)
- AU Canady M.A.; Tihova M.; Hanzlik T.N.; Johnson J.E.; Yeager M.
- SO Journal of Molecular Biology, (09 JUN 2000), 299/3 (573-584), 49
reference(s)
CODEN: JMBAK ISSN: 0022-2836
- L9 ANSWER 25 OF 40 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.
- TI Specific encapsidation of nodavirus RNAs is mediated through the C
terminus of **capsid** precursor protein alpha
- AU Schneemann A.; Marshall D.
- SO Journal of Virology, (1998), 72/11 (8738-8746), 24 reference(s)
CODEN: JOVIAM ISSN: 0022-538X
- L9 ANSWER 26 OF 40 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.
- TI Expression of tobacco ringspot virus **capsid** protein
and satellite **RNA** in **insect** cells and
three-dimensional structure of tobacco ringspot virus-like
particles
- AU Singh S.; Rothnagel R.; Prasad B.V.V.; Buckley B.
- SO Virology, (1995), 213/2 (472-481)
CODEN: VIRLAX ISSN: 0042-6822
- L9 ANSWER 27 OF 40 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V.
- TI Insect-mediated transmission of mixed and reassorted cucumovirus genomic
RNAs
- AU Perry K.L.; Francki R.I.B.
- SO Journal of General Virology, (1992), 73/8 (2105-2114)
CODEN: JGVIAY ISSN: 0022-1317
- L9 ANSWER 28 OF 40 LIFESCI COPYRIGHT 2003 CSA
- TI Analysis of RNA Packaging in Wild-Type and Mosaic Protein **Capsids**
of Flock House **Virus** Using Recombinant Baculovirus
Vectors
- AU Krishna, N.K.; Marshall, D.; Schneemann, A.
- SO Virology, (20030105) vol. 305, no. 1, pp. 10-24.
ISSN: 0042-6822.
- L9 ANSWER 29 OF 40 LIFESCI COPYRIGHT 2003 CSA
- TI The Palm Subdomain-based Active Site is Internally Permuted in Viral
RNA-dependent RNA Polymerases of an Ancient Lineage
- AU Gorbalyena, A.; Pringle, F.; Zeddam, J.; Luke, B.; Cameron, C.; Kalmakoff,
J.; Hanzlik, T.; Gordon, K.; Ward, V.
- SO Journal of Molecular Biology [J. Mol. Biol.], (20021115) vol. 324, no. 1,
pp. 47-62.
ISSN: 0022-2836.
- L9 ANSWER 30 OF 40 LIFESCI COPYRIGHT 2003 CSA
- TI Replication-Independent Assembly of an Insect Virus (Tetraviridae) in
Plant Cells
- AU Gordon, K.H.; Williams, M.R.; Baker, J.S.; Gibson, J.M.; Bawden, A.L.;
Millgate, A.G.; Larkin, P.J.; Hanzlik, T.N.*
- SO Virology, (20010915) vol. 288, no. 1, pp. 36-50.

ISSN: 0042-6822.

L9 ANSWER 31 OF 40 LIFESCI COPYRIGHT 2003 CSA
TI Large Conformational Changes in the Maturation of a Simple RNA Virus,
Nudaurelia capensis omega Virus (N omega V)
AU Canady, M.A.; Tihova, M.; Hanzlik, T.N.; Johnson, J.E.; Yeager, M.
SO Journal of Molecular Biology [J. Mol. Biol.], (20000609) vol. 299, no. 3,
pp. 573-584.
ISSN: 0022-2836.

L9 ANSWER 32 OF 40 LIFESCI COPYRIGHT 2003 CSA
TI Specific encapsidation of nodavirus RNAs is mediated through the C
terminus of capsid precursor protein alpha
AU Schneemann, A.*; Marshall, D.
SO J. Virol., (19981100) vol. 72, no. 11, pp. 8738-8746.
ISSN: 0022-538X.

L9 ANSWER 33 OF 40 LIFESCI COPYRIGHT 2003 CSA
TI Biological control of the oil palm pest Latoia viridisssima (Lepidoptera,
Limacodidae), in Cote d'Ivoire, by a new picornavirus.
AU Fediere, G.; Philippe, R.; Veyrunes, J.C.; Monsarrat, P.
SO ENTOMOPHAGA., (1990) vol. 35, no. 3, pp. 347-354.

L9 ANSWER 34 OF 40 LIFESCI COPYRIGHT 2003 CSA
TI Expression of Sindbis virus 26S cDNA in Spodoptera frugiperda (Sf9)
cells, using a baculovirus expression vector.
AU Oker-Blom, C.; Summers, M.D.
SO J. VIROL., (1989) vol. 63, no. 3, pp. 1256-1264.

L9 ANSWER 35 OF 40 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Analysis of RNA packaging in wild-type and mosaic protein **capsids**
of flock house **virus** using recombinant baculovirus
vectors.
AU Krishna N.K.; Marshall D.; Schneemann A.
SO Virology, (2003) 305/1 (10-24).
Refs: 32
ISSN: 0042-6822 CODEN: VIRLAX

L9 ANSWER 36 OF 40 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI The palm subdomain-based active site is internally permuted in viral
RNA-dependent RNA polymerases of an ancient lineage.
AU Gorbalenya A.E.; Pringle F.M.; Zeddam J.-L.; Luke B.T.; Cameron C.E.;
Kalmakoff J.; Hanzlik T.N.; Gordon K.H.J.; Ward V.K.
SO Journal of Molecular Biology, (2002) 324/1 (47-62).
Refs: 78
ISSN: 0022-2836 CODEN: JMOBAK

L9 ANSWER 37 OF 40 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Replication-independent assembly of an insect virus (Tetraviridae) in
plant cells.
AU Gordon K.H.J.; Williams M.R.; Baker J.S.; Gibson J.M.; Bawden A.L.;
Millgate A.G.; Larkin P.J.; Hanzlik T.N.
SO Virology, (15 Sep 2001) 288/1 (36-50).
Refs: 58
ISSN: 0042-6822 CODEN: VIRLAX

L9 ANSWER 38 OF 40 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Large conformational changes in the maturation of a simple RNA virus,
Nudaurelia capensis .omega. virus (N.omega.V).
AU Canady M.A.; Tihova M.; Hanzlik T.N.; Johnson J.E.; Yeager M.
SO Journal of Molecular Biology, (9 Jun 2000) 299/3 (573-584).

Refs: 49
ISSN: 0022-2836 CODEN: JMOBAK

L9 ANSWER 39 OF 40 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Specific encapsidation of nodavirus RNAs is mediated through the C terminus of capsid precursor protein alpha.

AU Schneemann A.; Marshall D.
SO Journal of Virology, (1998) 72/11 (8738-8746).
Refs: 24
ISSN: 0022-538X CODEN: JOVIAM

L9 ANSWER 40 OF 40 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Expression of tobacco ringspot **virus capsid** protein and satellite **RNA** in **insect** cells and three-dimensional structure of tobacco ringspot **virus-like** particles.

AU Singh S.; Rothnagel R.; Prasad B.V.V.; Buckley B.
SO Virology, (1995) 213/2 (472-481).
ISSN: 0042-6822 CODEN: VIRLAX

L9 ANSWER 5 OF 40 CAPLUS COPYRIGHT 2003 ACS
AN 2000:531889 CAPLUS
DN 133:115934
TI Recombinant Nudaurelia .beta. or .beta.-like virus (N.beta.V) and vectors and their use in the preparation of insecticidal transgenic plants
IN Gordon, Karl H.; Hanzlik, Terry N.; Hendry, Donald A.
PA Commonwealth Scientific and Industrial Research Organisation, Australia; Rhodes University
SO Pat. Specif. (Aust.), 30 pp.
CODEN: ALXXAP
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	AU 711559	B2	19991014	AU 1997-24669	19970602
	AU 9724669	A1	19971204		
	ZA 9704839	A	19980219	ZA 1997-4839	19970602
PRAI	AU 1996-233	A	19960531		

AB The invention relates to isolated nucleic acid mols. comprising a nucleotide sequence which hybridizes to the genomic RNA sequence, or protein-encoding or non-protein-encoding portions thereof, of Nudaurelia .beta. virus (N.beta.V) or other serol. related Nudaurelia .beta.-like virus. Recombinant virus vectors including the nucleic acid mols., methods of producing N.beta.V or other serol. related Nudaurelia .beta.-like virus, and virus-like particles (VLPs) are also described. These recombinant N.beta.Vs and their vectors expressing insecticidal protein toxins can be used to make transgenic plants resistant to insect infections.

L9 ANSWER 8 OF 40 CAPLUS COPYRIGHT 2003 ACS
AN 1995:945201 CAPLUS
DN 124:22764
TI Expression of tobacco ringspot **virus capsid** protein and satellite **RNA** in **insect** cells and three-dimensional structure of tobacco ringspot **virus**-like particles
AU Singh, Sarabjot; Rothnagel, Rosalba; Prasad, B. V. Venkataram; Buckley, Becky
CS Div. of Molecular Virology and Verna and Marrs McLean Dep. of Biochem., Baylor College of Medicine, Houston, TX, 77030, USA
SO Virology (1995), 213(2), 472-81
CODEN: VIRLAX; ISSN: 0042-6822
PB Academic
DT Journal
LA English
AB The **capsid** protein gene of tobacco ringspot **virus** (ToBRV), which had been modified to contain an amino-terminal methionine codon, was ligated into a baculovirus transfer **vector** downstream from the polyhedrin promoter. The resulting plasmid was cotransfected with linearized baculovirus DNA into insect cells. Recombinant baculovirus expressed high levels of the ToBRV **capsid** protein that assembled to form **virus**-like particles that were similar in size and shape to authentic ToBRV **capsids**. These **virus**-like particles did not encapsidate any RNA, including the **capsid** protein mRNA. The **capsid** protein mRNA is a truncated RNA 2, which may lack a putative encapsidation signal. To det. whether an intact packaging substrate could be encapsidated by the ToBRV **capsid** protein, another recombinant baculovirus, concomitantly expressing both **capsid** protein and ToBRV satellite RNA, was constructed.

Surprisingly, the vast majority of the satellite RNA mols. expressed from this recombinant baculovirus were ligated in the insect cells to form circular RNA mols. Like circular forms of satellite RNA generated in planta, these circular satellite mols. remained unencapsidated by the TobRV **capsid** protein. Computer-generated three-dimensional reconstruction using electron cryomicrographs of the empty **virus**-like particles allowed the first structural analyses of any nepovirus **capsid**. This 22.-ANG. resoln. reconstruction resembled **capsids** of other members of the picornavirus superfamily. These data supports the hypothesis that the nepovirus **capsid** is structurally analogous to those of the como- and picornaviruses.

L9 ANSWER 18 OF 40 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1991:68852 BIOSIS
DN BA91:37512
TI BIOLOGICAL CONTROL OF THE OIL PALM PEST LATOIA-VIRIDISSIMA LEPIDOPTERA LIMACODIDAE IN IVORY COAST BY A NEW PICORNAVIRUS.
AU FEDIERE G; PHILIPPE R; VEYRUNES J C; MONSARRAT P
CS LAB. D'ENTOMOVIROLOGIE, CENTRE ORSTOM D'ADIOPODOUME, B.P. V-51, ABIDJAN, COTE D'IVOIRE.
SO ENTOMOPHAGA, (1990) 35 (3), 347-354.
CODEN: ETPGAY. ISSN: 0013-8959.
FS BA; OLD
LA English
AB Among the major oil palm pest **insects** in the Cote d'Ivoire, *Latoia viridissima* Holland [Lepidoptera, Limacodidae] is the most frequently observed defoliator. During a pullulation of this species, a natural epizootic permitted us to demonstrate the occurrence of a small isometric **RNA virus** of 30 nm in diameter. The buoyant density of the **virus** particles was 1.34. The **virus** **capsid** containing 2 major proteins with molecular weights of 30,000 (55%) and 31,000 (20%) and 3 minor proteins. One genome component was detected with molecular weight 2,9 .times. 106. Agarose gel diffusion tests showed **virus** was distinct from any other described **insect** Picornavirus. Trials with different doses of viral suspensions were tested on industrial oil palm plantation, allocated by *L. viridissima*, from ground level, using an automatic air **carried** sprayer. One week after the treatment, a mortality gradient, increasing from 11 to 61% according to the dose applied, was obtained. Two weeks after the treatment the mortality reached 92% of the larvae in the treated parcels. During the next generation, the number of caterpillars on the same parcel was very low.

L9 ANSWER 33 OF 40 LIFESCI COPYRIGHT 2003 CSA
AN 90:61068 LIFESCI
TI Biological control of the oil palm pest *Latoia viridissima* (Lepidoptera, Limacodidae), in Cote d'Ivoire, by a new picornavirus.
AU Fediere, G.; Philippe, R.; Veyrunes, J.C.; Monsarrat, P.
CS Lab. Entomovirol., Cent. ORSTOM Adiopodoume, B.P. V-51, Abidjan, Ivory Coast
SO ENTOMOPHAGA., (1990) vol. 35, no. 3, pp. 347-354.
DT Journal
FS Z; D; V; A; W
LA English
SL English; French
AB Among the major oil palm pest **insects** in the Cote d'Ivoire, *Latoia viridissima* Holland (Lepidoptera, Limacodidae) is the most frequently observed defoliator. During a pullulation of this species, a natural epizootic permitted us to demonstrate the occurrence of a small isometric **RNA virus** of 30 nm in diameter. The buoyant density of the **virus** particles was 1.34. The **virus**

capsid contained 2 major proteins with molecular weights of 30,000 (55%) and 31,000 (20%) and 3 minor proteins. One genome component was detected with molecular weight $2,9 \times 10^6$ super(6). Agarose gel diffusion tests showed this **virus** was distinct from any other described **insect** Picornavirus. Trials with different doses of viral suspensions were tested on industrial oil palm plantation, allocated by *L. viridissima*), from ground level, using an automatic air **carried** sprayer. One week after the treatment, a mortality gradient, increasing from 11 to 61% according to the dose applied, was obtained.

- L17 ANSWER 1 OF 24 MEDLINE
TI The pathway of infection of *Autographa californica* nuclear polyhedrosis virus in an **insect** host.
AU Keddie B A; Aponte G W; Volkman L E
SO SCIENCE, (1989 Mar 31) 243 (4899) 1728-30.
Journal code: 0404511. ISSN: 0036-8075.
- L17 ANSWER 2 OF 24 MEDLINE
TI Production of polyhedrin monoclonal antibodies for distinguishing two *Orgyia pseudotsugata* baculoviruses.
AU Quant R L; Pearson M N; Rohrmann G F; Beaudreau G S
SO APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (1984 Oct) 48 (4) 732-6.
Journal code: 7605801. ISSN: 0099-2240.
- L17 ANSWER 3 OF 24 MEDLINE
TI Granulosis viruses, with emphasis on the GV of the Indian meal moth, *Plodia interpunctella*.
AU Consigli R A; Tweeten K A; Anderson D K; Bulla L A Jr
SO ADVANCES IN VIRUS RESEARCH, (1983) 28 141-73. Ref: 184
Journal code: 0370441. ISSN: 0065-3527.
- L17 ANSWER 4 OF 24 MEDLINE
TI Isolation and purification of a granulosis virus from infected larvae of the Indian meal moth, *Plodia interpunctella*.
AU Tweeten K A; Bulla L A Jr; Consigli R A
SO APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (1977 Sep) 34 (3) 320-7.
Journal code: 7605801. ISSN: 0099-2240.
- L17 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI Recent trials with pyrethroids in potato, winter rape and field beans
AU Nilsson, Christer
SO Vaextskyddsrapporter, Jordbruk (1984), 28, 116-21
CODEN: VAJODH; ISSN: 0347-3236
- L17 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI Further trials on alternatives to DDT for the control of preblossom pests on apple and pear
AU Vernon, J. D. R.; Gould, H. J.
SO Plant Pathology (1972), 21(1), 1-9
CODEN: PLPAAD; ISSN: 0032-0862
- L17 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI Field-trials of anti-**capsid insecticides** on farmers' cocoa in Ghana, 1956-60. 2. Effects of different **insecticides** compared by counting **capsids**, and **capsid**-counting compared with counting the percentage of newly damaged trees
AU Johnson, C. G.; Burge, G. A.
SO Ghana Journal of Agricultural Science (1971), 4(Pt. 1), 33-8
CODEN: GJASAF; ISSN: 0533-8662
- L17 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI Comparison of four **insecticides** for the control of the common green **capsid**, *Lygocoris pabulinus* (Heteroptera-Miridae), on apple trees
AU Wightman, J. A.
SO Plant Pathology (1971), 20(2), 66-8
CODEN: PLPAAD; ISSN: 0032-0862
- L17 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI Field trials of anti-**capsid insecticides** on farmers' cocoa in Ghana, 1956-60. 1. Comparing the effects of treatments by

- AU assessing subsequent damage
AU Johnson, C. G.; Burge, G. A.; Gibbs, D. G.
SO Ghana Journal of Agricultural Science (1970), 3(Pt. 2), 155-77
CODEN: GJASAF; ISSN: 0533-8662
- L17 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI Testing of fungicides and **insecticides** in 1969
AU Noeddegaard, E.; Hansen, Torkil; Noehr Rasmussen, A.
SO Tidsskrift for Planteavl (1970), 74(5), 618-61
CODEN: TPLAAV; ISSN: 0040-7135
- L17 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI **Pesticidal** pyrimidinyl phosphorothioate, and its application
IN Sharpe, Stuart P.; Snell, Brian K.
SO Brit., 7 pp. Division of Brit. 1203026
CODEN: BRXXAA
- L17 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI **Insecticide** work at C.R.I.G. [Cocoa Research Institute of
Ghana], Tafo
AU Marchart, H.
SO Cafe, Cacao, The (1969), 13(3), 213-15
CODEN: CACAAAY; ISSN: 0007-9510
- L17 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI Synthetic **insecticides**
AU Emery, G. A.
SO Intern. Congr. Plant Protect. (Heverlee, Belg.) (1946), 1(Gen. Rept.),
351-8
- L17 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI Mineral oils as **insecticides**
AU Carroll, J.
SO Econ. Proc. Roy. Dublin Soc. (1938), 3, 63-74
- L17 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2003 ACS
TI Carbolineum as an **insecticide**
AU Speyer, W.
SO Z. angew. Entomol. (1934), 20, 564-89
- L17 ANSWER 16 OF 24 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Transmission of three strains of potato virus Y by *Myzus nicotianae*.
AU Cupertino, F. P.; Costa, C. L.; Silva, Ana Maria R.
SO Fitopatologia Brasileira, (1993) Vol. 18, No. 1, pp. 102-106.
ISSN: 0100-4158.
- L17 ANSWER 17 OF 24 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI EFFECT OF LATE NITROGEN LEAF DRESSING ON SOFT AND DURUM WHEAT YIELD AND
GRAIN QUALITY.
AU DEKOV D
SO RASTENIEV'D NAUKI, (1988) 25 (7), 17-23.
CODEN: RSTNA7. ISSN: 0568-465X.
- L17 ANSWER 18 OF 24 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI EFFECTS OF **PESTICIDES** IN DIFFERENT CONCENTRATIONS ON MIRIDS AND
ANTHOCORIDS IN ORCHARDS.
AU HESJEDAL K
SO FORSK FORS LANDBRUKET, (1986 (RECD 1987)) 37 (4), 213-218.
CODEN: FFLAAB. ISSN: 0429-1913.
- L17 ANSWER 19 OF 24 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI MONITORING OF THE GREEN **CAPSID** BUG LYGOCORIS-PABULINUS HEMIPTERA
MIRIDAE IN APPLE ORCHARDS.

AU BUS V G M; MOLS P J M; BLOMMERS L H M

SO 37TH INTERNATIONAL SYMPOSIUM ON CROP PROTECTION, GHENT, BELGIUM. MEDED FAC
LANDBOUWWET RIJKSUNIV GENT. (1985 (RECD 1986)) 50 (2 PART B), 505-510.
CODEN: MFLRA3. ISSN: 0368-9697.

L17 ANSWER 20 OF 24 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI PLANT BUGS AND EAR LEUCOCHROISM OF GRASSES.

AU ROTREKL J; KLUMPAR J; CAGAS B; BUMERL J

SO SB UVTIZ (USTAV VEDECKOTECH INF ZEMED) OCHR ROSTL, (1985 (RECD 1986)) 21
(4), 267-274.
CODEN: SUSRD8.

L17 ANSWER 21 OF 24 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI BHC RESISTANCE SURVEY..

AU MARCHART H; COLLINGWOOD C A

SO Annu. Rep. - Cocoa Res. Inst. (Tafo, Ghana), (1969) 1967-1968, 78-80.
CODEN: CRGAB4. ISSN: 0374-714X.

L17 ANSWER 22 OF 24 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI SPRAYING TECHNIQUES.

AU MARCHART H

SO Annu. Rep. - Cocoa Res. Inst. (Tafo, Ghana), (1969) 1967-1968, 73-74.
CODEN: CRGAB4. ISSN: 0374-714X.

L17 ANSWER 23 OF 24 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI CAGE SPRAYING TESTS.

AU MARCHART H; PICKETT A D

SO Annu. Rep. - Cocoa Res. Inst. (Tafo, Ghana), (1969) 1967-1968, 72.
CODEN: CRGAB4. ISSN: 0374-714X.

L17 ANSWER 24 OF 24 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI ANT **CAPSID** ECOLOGY.

AU LESTON D

SO Annu. Rep. - Cocoa Res. Inst. (Tafo, Ghana), (1969) 1967-1968, 65-68.
CODEN: CRGAB4. ISSN: 0374-714X.